

**ABSTRACT OF THE DISCLOSURE**

The present invention provides a method of depositing a carbon doped silicon oxide film having a low dielectric constant ( $k$ ). A process gas mixture containing at least a carrier gas, an oxidizer, a carbon silicon gas source, or combinations thereof, is supplied adjacent an edge of a substrate through a purge gas inlet in a substrate support to facilitate deposition of a low  $k$  carbon doped silicon oxide film having a greater concentration of silicon oxide around the edge of the substrate than an inner portion of the substrate.